IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Canceled).

Claim 10 (New): An image signal cancel-type heterodyne reception method comprising the steps of:

mixing a high-frequency signal received and amplified with locally oscillated two-phase output signals of a first local oscillator which have different phases, to generate two-phase intermediate-frequency signals;

summing a pair of modulated signals of the two-phase intermediate-frequency signals which are modulated using two modulating orthogonal signals which are orthogonal to each other, to generate one synthesized signal;

amplifying the synthesized signal to generate a synthesized-signal amplifier output signal;

modulating the synthesized-signal amplifier output signal by using the modulating orthogonal signals to generate a pair of intermediate-frequency amplifier output signals that are analog signals and mixing the intermediate-frequency amplifier output signals with locally oscillated two-phase output signals of a second local oscillator which have different phases, to generate desired base-band signals from which image signals have been canceled, thus demodulating the base-band signals.

Claim 11 (New): The image signal cancel-type heterodyne reception method according to claim 10, wherein signals of two frequency bands which act as an image signal to each other are received simultaneously.

Claim 12 (New): The image signal cancel-type heterodyne reception method according to claim 11, wherein rectangular waves or sine waves whose phases are shifted by 90° from each other are used as the two modulating orthogonal signals which are orthogonal to each other.

Claim 13 (New): The image signal cancel-type heterodyne reception method according to claim 11, wherein two-valued signals having sequences {1, -1, 1, -1, 1, 1, -1, -1} and {1, 1, -1, -1, 1, -1, 1, -1} respectively are used as the two modulating orthogonal signals which are orthogonal to each other.

Claim 14 (New): The image signal cancel-type heterodyne reception method according to claim 10, wherein rectangular waves or sine waves whose phases are shifted by 90° from each other are used as the two modulating orthogonal signals which are orthogonal to each other.

Claim 15 (New): The image signal cancel-type heterodyne reception method according to claim 10, wherein two-valued signals having sequences {1, -1, 1, -1, 1, 1, -1, -1} and {1, 1, -1, -1, 1, -1, 1, -1} respectively are used as the two modulating orthogonal signals which are orthogonal to each other.

Claim 16 (New): An image signal cancel-type heterodyne reception method comprising the steps of:

mixing a high-frequency signal received and amplified with locally oscillated two-phase output signals of a first local oscillator which have different phases, to generate two-phase intermediate-frequency signals;

summing a pair of modulated signals of the two-phase intermediate-frequency signals which are modulated using two modulating orthogonal signals which are orthogonal to each other, to generate one synthesized signal;

amplifying the synthesized signal to generate a synthesized-signal amplifier output signal; and

modulating the synthesized-signal amplifier output signal by using signals obtained by modulating two-phase output signals of a second local oscillator which have different phases by using the modulating orthogonal signals, to generate a desired base-band signal from which an image signal has been canceled, thus demodulating the base-band signal.

Claim 17 (New): The image signal cancel-type heterodyne reception method according to claim 16, wherein signals of two frequency bands which act as an image signal to each other are received simultaneously.

Claim 18 (New): The image signal cancel-type heterodyne reception method according to claim 17, wherein rectangular waves or sine waves whose phases are shifted by 90° from each other are used as the two modulating orthogonal signals which are orthogonal to each other.

Claim 19 (New): The image signal cancel-type heterodyne reception method according to claim 17, wherein two-valued signals having sequences {1, -1, 1, -1, 1, 1, -1, -1} and {1, 1, -1, -1, 1, -1, 1, -1} respectively are used as the two modulating orthogonal signals which are orthogonal to each other.

Claim 20 (New): The image signal cancel-type heterodyne reception method according to claim 16, wherein rectangular waves or sine waves whose phases are shifted by 90° from each other are used as the two modulating orthogonal signals which are orthogonal to each other.

Claim 21 (New): The image signal cancel-type heterodyne reception method according to claim 16, wherein two-valued signals having sequences {1, -1, 1, -1, 1, 1, -1, -1} and {1, 1, -1, -1, 1, -1, 1, -1} respectively are used as the two modulating orthogonal signals which are orthogonal to each other.

Claim 22 (New): A direct conversion orthogonal frequency division multiplexing reception method comprising the steps of:

modulating a high-frequency signal modulated by orthogonal frequency division multiplexing, by using two-phase output signals of a local oscillator whose frequencies are equal to a center frequency of a receive signal and whose phases are shifted by 90° from each other, to generate two-phase base-band signals;

summing a pair of modulated signals of the two-phase base-band signals which are modulated using two modulating orthogonal signals which are orthogonal to each other, to generate one synthesized signal;

amplifying the synthesized signal to generate a synthesized-signal amplifier output signal;

modulating the synthesized-signal amplifier output signal by using the modulating orthogonal signals; and

based on a result of performing Fourier transform on the modulated synthesized-signal amplifier output signal, performing demodulation against the orthogonal frequency division multiplexing.

Claim 23 (New): The direct conversion orthogonal frequency division multiplexing reception method according to claim 22, wherein three-valued signals having sequences {0, 1, 0, -1} and {1, 0, -1, 0} respectively are used as the two modulating orthogonal signals which are orthogonal to each other.

Claim 24 (New): A direct conversion orthogonal frequency division multiplexing reception method comprising the steps of:

modulating a high-frequency signal modulated by orthogonal frequency division multiplexing, by using two-phase output signals of a local oscillator whose frequencies are equal to a center frequency of a receive signal and whose phases are shifted by 90° from each other, to generate two-phase base-band signals;

summing a pair of modulated signals of the two-phase base-band signals which are modulated using two modulating orthogonal signals which are orthogonal to each other, to generate one synthesized signal;

amplifying the synthesized signal to generate a synthesized-signal amplifier output signal;

based on a result of performing Fourier transform on the synthesized-signal amplifier output signal, performing demodulation against the orthogonal frequency division multiplexing; and

three-valued signals having sequences {0, 1, 0, -1} and {1, 0, -1, 0} respectively are used as the two modulating orthogonal signals which are orthogonal to each other.